

Figure 1

1	M - N T I P R L A Q R L V L I L A G L V I	----- A S S A H A G L	MANA_XANC
1	M R N A R S T L I T T A G M A F A V L G L L	F A D P T D A A L A Q I A A	MANA_STRL
1	M R L K T K I R K K W L S V L C T V V F I	L N I L F I A N V - - T I L P K V G A	MANB_CALS
29	S V S G T Q L K E S N G N T L I L R G I N L P H A	W F A D P T D A A L A Q I A A	MANA_XANC
41	H V S N G R V V E G N G S A F V M R C V N H A Y T W Y P D P T G S - I A D I A A	MANA_STRL	
39	A T X N D G V V K I D T S T L I - - G T M H A H C W Y R D P L D T A L R G E R S	MANB_CALS	
69	T G A N S V R V V M I S S G H R W N R T P E A E M A R I	W A R C K A L G L I A V -	MANA_XANC
80	K G A N T M R V V M I S S G G R W T K T S A S E V S A L I G Q C K A N K V I C V -	MANA_STRL	
77	W G M N S V R V V I S N G Y R W T K I P A S E V A N I T S L S R S L G F K A I I	MANB_CALS	
108	L E V H D T T G M G E D G A A G S D E A N A A S Y W T S V R T A L - V G Q E D Y	V	MANA_XANC
119	L E V H D T T G M G K D P A T - S D Q A G D W V G V K S A A W R A Q E D Y	MANA_STRL	
117	L E V H D T T G M G E D G A A C S D E A Q A V E N W K E I K S V L - D G N E D F	MANB_CALS	
147	I I N I G N E P F G N Q L S A S E W V N G H A N A E A T L R G A G L T H A L M V	MANA_XANC	
158	V V N I G N E P F G N T - N Y A A W T D A T K S A T G K T R G A G L G H A L M V	MANA_STRL	
156	I I N I G N E P Y G N N - N Y Q N W V N D T K N A I K A I R D A G F K H T I M V	MANB_CALS	
187	D A P N W G Q D W Q F Y M R D N A A A L L A R D S R R N L I F S V H M Y E V F G	MANA_XANC	
197	D A P N W G Q D W S G T M R S N A A S V F A S D P D R N T V F S I H M Y G V Y D	MANA_STRL	
195	D A P N W G Q D W S N T M D N A Q S I M E A D P L R N L V F S I H M Y G V Y N	MANB_CALS	
227	S D A V V D S E L R T E R S N N L A L V V G E F G A D H R G A P V D E A A I M R	MANA_XANC	
237	T A A E M R D Y L N A F V G N G D P I M V G E F G D Q H S D G N P D E D A I M A	MANA_STRL	
235	T A S K V E E Y I K S F V D K G E P L V I G E F G H Q H T D G D P D E E A I V R	MANB_CALS	
267	R A R E Y G V G Y L G W S W S G N D S S T Q S L D I V L G W D P A R L S S W G R	MANA_XANC	
277	T A Q S L G V C Y L G W S W S G N G G G V E Y I D M V N G F D P N S L T S W C N	MANA_STRL	
275	Y A K Q Y K I G L F S W S W C G N S S Y V G Y I D M V N N W D P N N P T P W G Q	MANB_CALS	
307	S L I Q G P D G E A A T S R R A R V F G A R V R A M E -	MANA_XANC	
317	R I L Y G S N G T A A T E -	MANA_STRL	
315	W - - Y K T N A G T S S -	MANB_CALS	

Figure 2

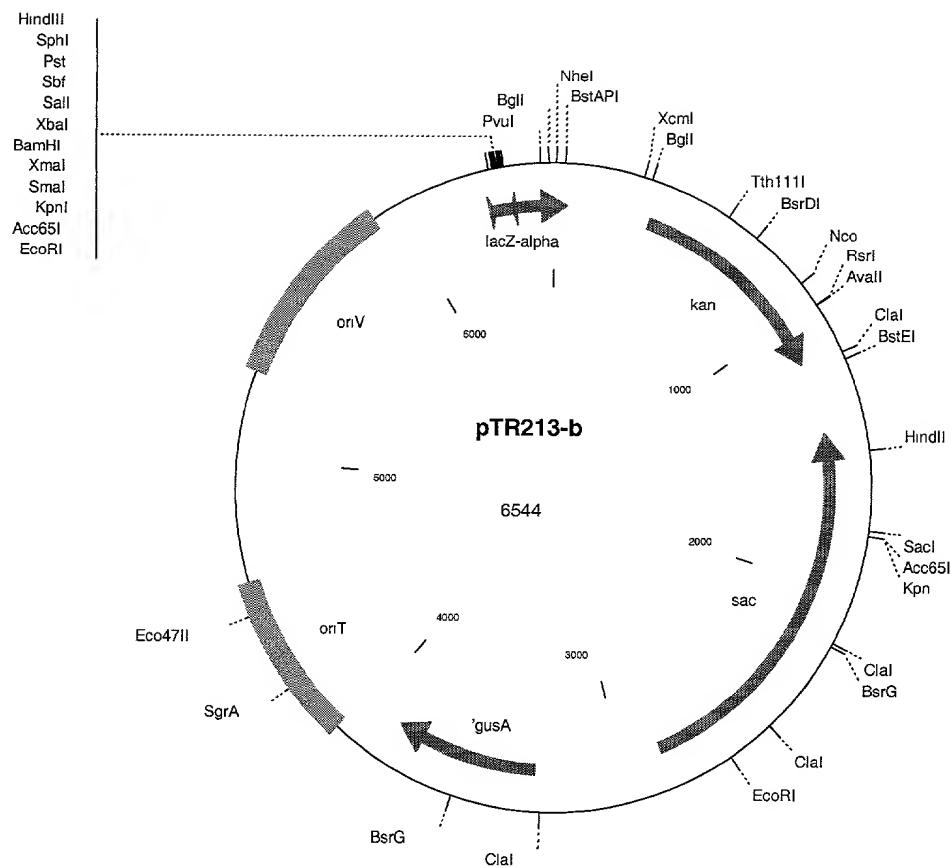


Figure 3

map of *manA* and *manB* genes

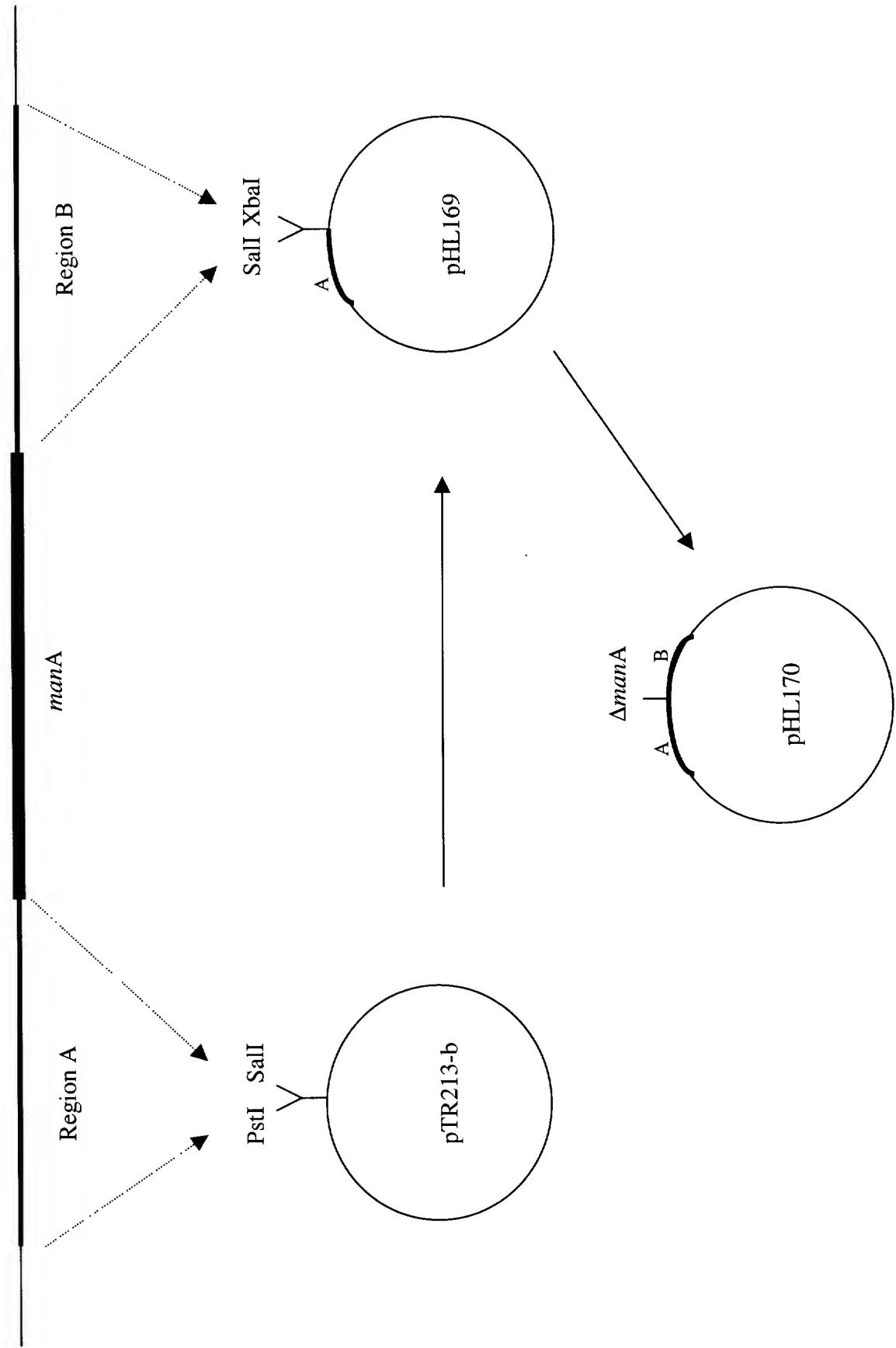


Figure 4

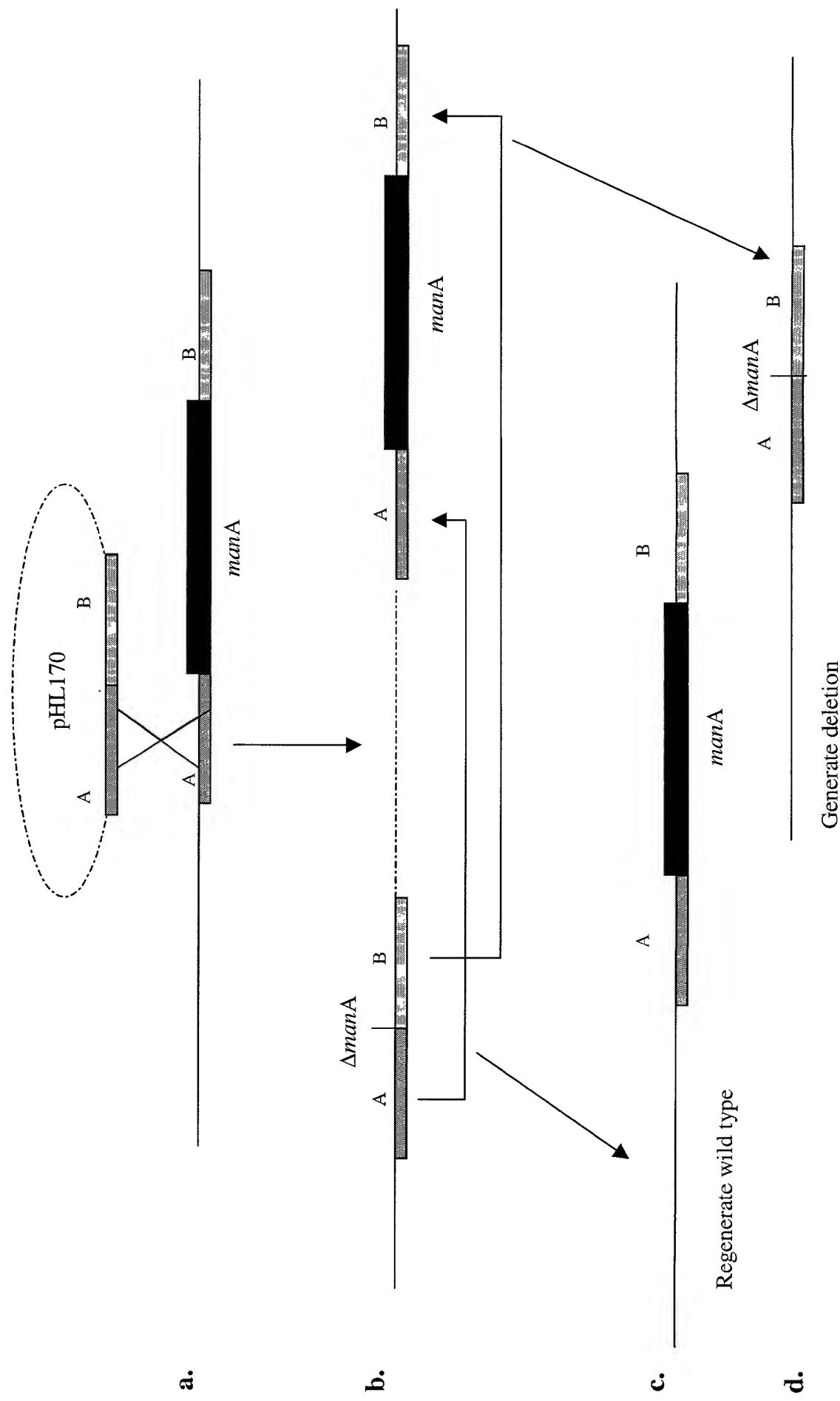


Figure 5

